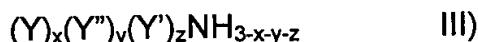


CLAIMS

1. A process wherein one or more polyamines, each with one or more  $-NH_2$  functions and one or more second amine functions, said second amine

5       functions having a lower lactone reactivity than said  $-NH_2$  functions, is reacted in a first step with one or more lactones, hydroxyacids, cyclic carbonates, or mixtures thereof, to form a polyamine derived compound with amide and/or urethane groups, which polyamine-derived compound is reacted in a second step with one or more at least bifunctional amine-specific reagents to form an intermediate optionally comprising ester and/or carbonate groups, wherein in

10      the second step optionally an additional amine modifier of formula III)



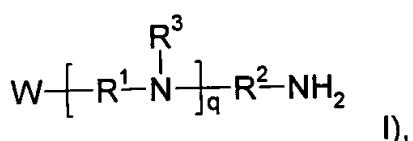
wherein x is an integer of 0, 1 or 2, y is an integer of 0, 1 or 2, z is an integer of 0 or 1, wherein  $x+y$  is 1 or 2,  $x+y+z$  is 1 or 2, Y represents an (anchoring)

15      moiety with affinity for a pigment surface or substrate,  $Y''$  represents a (stabilising) moiety with affinity for the matrix, and  $Y'$  represents a further group that is neither an anchoring moiety nor a stabilising moiety, is co-reacted and in the intermediate at least two polyamine residues, or if a modifier is co-reacted, at least one polyamine residue and at least one optional amine modifier residue, are linked by the bifunctional amine-specific reagent.

20      2. A process according to claim 1 wherein in the second step an intermediate comprising at least two polyamine residues is formed.

25      3. A process according to claim 1 or 2 wherein the number of lactone, hydroxy acid and/or cyclic carbonate molecules is from 0.1 to 10 times the number of  $-NH_2$  groups of the polyamine .

4. A process according to any one of claims 1 to 3 wherein the bifunctional amine-specific reagent is used in an amount such that the number of amine-reactive groups corresponds to from 0.1 to 10 times the sum of the number of second amine functions of the polyamine-derived compound and the number of amine functions of the optional amine modifier.
5. A process according to any one of the preceding claims 1-4 wherein a polyamine is used of formula I)



10 wherein q is an integer from 1 to 10, wherein  $R^1$  and  $R^2$ , independently, are selected from alkylene groups with from 1 to 10 carbon atoms, wherein each of  $R^3$ , independently, is selected from the group consisting of hydrogen, hydroxyalkyls, alkylamines, polyalkylamines, and polyalkylpolyamines, and wherein W is hydroxy or amine.

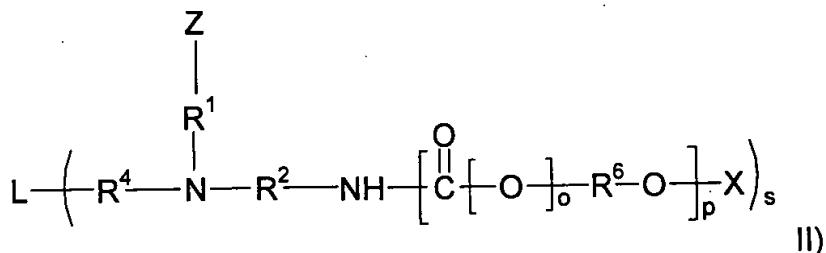
15

6. A process according to any one of the preceding claims which comprises a further step wherein one or more of the  $-OH$  groups which are present after the first step are reacted to attach a matrix-compatible moiety with a molecular weight of more than 250 to said intermediate, with said further step being conducted either between the first and second steps or, preferably, after the second step.
- 20
7. A process according to claim 5 wherein the  $-OH$  groups are reacted with one or more compounds selected from the group consisting of epoxides, lactones, cyclic carbonates, hydroxy acids, and other suitable conventional reactants to form polyesters, to form matrix-compatible linear or branched, substituted or
- 25

unsubstituted, preferably unsubstituted, C<sub>4</sub>-C<sub>30</sub> alkyl, polyester, polyether, polyetherester or polyetherether groups.

8. A process according to any one of the preceding claims wherein at least one  
5       amine modifier of formula III is co-reacted in the second step.

9. Polyamine derivative of formula II :



wherein each R<sup>4</sup>NR<sup>1</sup>ZR<sup>2</sup>NH moiety is a residue of a polyamine, each  
10       C(O)[O]R<sup>6</sup>O moiety is a residue of a lactone, hydroxyacid and/or cyclic  
carbonate, L is a residue of at least bifunctional amine-specific reagent, R<sup>1</sup> and  
R<sup>2</sup> are as defined above for formula I), each index o will independently be 0 or  
15       1, index p represents the average number of moiety C(O)[O]R<sup>6</sup>O per  
R<sup>4</sup>NR<sup>1</sup>ZR<sup>2</sup>NH moiety and has a value ranging from 0.1 to 30, each X is  
hydrogen or, wholly or partly, a substituted or unsubstituted, linear or  
15       branched, hydrocarbon group, polyester, polyether, polyetherester or  
polyesterether group, index s represents an integer of 1 to 10, wherein if s is 1,  
the amine specific reagent L is further reacted with a compound of formula III  
20       as defined above, R<sup>4</sup> represents a group R<sup>3</sup> minus a proton, R<sup>3</sup> is as defined  
above for formula I), Z- presents a group W'-[R<sup>1</sup>-NR<sup>5</sup>]<sub>q-1</sub>-, wherein W' is W as  
defined for formula I above or the reaction product of group W with at least  
one lactone, hydroxyacid and/or cyclic carbonate and each R<sup>5</sup> independently is  
a group R<sup>3</sup> or the reaction product of R<sup>3</sup> with amine-specific reagent L.

10. Polyamine derivative obtainable by a process according to any one of the preceding claims 1-8.

11. Use of the polyamine derivative of claim 9 or 10 in printing ink formulations or  
5 coating compositions.

12. Use of the polyamine derivative of claim 9 or 10 as a pigment dispersant.